

REMARKS

Reconsideration of the pending application is respectfully requested on the basis of the following particulars:

In the claims

Claim 1 is amended to more clearly describe the present invention, by pointing out that the wireless transceiver of the present invention is for providing a power supply for operation of an implantable medical device, and that the first and second coil windings configured to supply electrical power to said control circuit for operation of said control circuit.

Support for this amendment is found throughout the original specification, and particularly at lines 15-21 of page 1, line 23 of page 2 to line 4 of page 3, and lines 20-22 of page 3.

Rejection of claims 1-14 under 35 U.S.C. § 112, Second Paragraph

Claims 1-14 presently stand rejected as being indefinite. In particular, the examiner states that the recitation "corresponds to the number of circles" is vague. However, Applicant respectfully submits that this recitation would be understood by persons skilled in the art to mean that the number of circles in the first coil is proportional to the number of circles in the second coil, and therefore the recitation is not indefinite. Accordingly, withdrawal of the rejection is requested.

Rejection of claims 1-14 under 35 U.S.C. § 102(b)

Claims 1-14 presently stand rejected as being anticipated by Paul (U.S. 5,697,958). This rejection is respectfully traversed for the following reasons.

Claim 1 sets forth a wireless transceiver for providing a power supply for operation of an implantable medical device, wherein a first coil winding is configured to receive a signal from an external source, the first coil winding being wound around its coil axis in a first direction, and at least one second coil winding is configured to receive the signal from

the external source, the second coil winding being wound around its coil axis in a second direction non-parallel with the first direction, wherein the first and second coil windings are electrically connected to a control circuit and configured to supply electrical power to the control circuit for operation of the control circuit in response to the signal.

Paul fails to disclose or suggest first and second coil windings, being wound around non-parallel axes, that are connected to a control circuit and configured to supply electrical power to the control circuit for operation of the control circuit in response to a received signal.

Referring to Paul's Fig. 1, Paul provides a telemetry antenna 34 and an EMI detection antenna 40. However, there is no teaching or suggestion that either of these antennae is configured for supplying power in response to any received signal.

Paul discloses a three-dimensional coil antenna system for use in a noise detector. (see *Paul*; col. 14, lines 35-37) However, Paul makes no teaching or suggestion that the three-dimensional coil antenna system provides a power supply for operation of an implantable medical device, and more particularly that the three-dimensional coil antenna system supplies electrical power to a control circuit for operation of the control circuit in response to a received signal.

Instead, Paul is concerned with detecting electromagnetic fields that may cause interference to an implantable medical device (see *Paul*; col. 1, lines 5-7), and not to providing electric power to the implantable medical device.

Therefore, Paul does not anticipate claim 1 because Paul does not disclose or suggest each and every element set forth in claim 1. Accordingly, it is respectfully submitted that claim 1, along with claims 2-14 which depend from claim 1, are allowable over the cited reference.

For at least these reasons, the withdrawal of the rejection is respectfully requested.

Rejection of claims 1-4, 7, 8, 12, and 14 under 35 U.S.C. § 102(b)

Claims 1-4, 7, 8, 12, and 14 presently stand rejected as being anticipated by Renken (U.S. 6,009,350). This rejection is respectfully traversed for at least the following reasons.

Renken discloses a telemetry antenna for an implantable medical device (see *Renken*; Abstract), and is primarily concerned with providing an antenna for increased uplink telemetry range. (see *Renken*; col. 6, lines 3-5).

Renkin discloses that “the increased uplink telemetry range antenna apparatus 10 comprises a plurality of individual electric elements 22 such as coil antennas arranged so as to be spaced apart and connected in parallel with a power generation unit such as an IMD battery 24. IMD battery 24 produces a predetermined and set amount of voltage, V_{Tx} .” (*Renkin*; col. 8, line 65 – col. 9, line 2).

Clearly, Renkin does not disclose or suggest that the antenna apparatus, or more specifically its coil elements, functions as a power supply to power an implantable medical device, since a battery 24 is required. On the contrary, the battery device 24 provides power for transmitting a signal via the coil antennas.

Therefore, Renkin does not disclose or suggest the claimed arrangement of coil windings wherein first and second coil windings are electrically connected to a control circuit and configured to supply electrical power to the control circuit for operation of the control circuit in response to the signal.

Accordingly, Renkin does not anticipate claim 1 because Renkin does not disclose or suggest each and every element set forth in claim 1. Accordingly, it is respectfully submitted that claim 1, along with claims 2-14 which depend from claim 1, are allowable over the cited reference, and withdrawal of the rejection is requested.

Rejection of claims 1-14 under 35 U.S.C. § 103(a)

Claims 1-14 presently stand rejected as being unpatentable over Säynäjäkangas (U.S. 4,625,733) in view of Paul. This rejection is respectfully traversed for the following reasons.

Säynäjäkangas discloses a “a procedure and a means for telemetric measurement of heartbeat and ECG signal, according to the procedure a person's heartbeat or ECG signal being measured in a suitable part of the body and transmitted from a separate transmitter means to a separate receiver means.” (*Säynäjäkangas*; Abstract).

Accordingly, referring to Säynäjäkangas' Fig. 5, a telemetry transmitter and receiver are disclosed, wherein transmitting coils 17 are provided to transmit a signal corresponding to a person's heartbeat or ECG. (see *Säynäjäkangas*; col. 2, lines 59-68), and receiving coils 18 are provided in a separate unit to receive the signal.

It must be noted that Säynäjäkangas does not disclose or suggest that either unit is an implantable medical device. On the contrary, Säynäjäkangas discloses that "a telemetric heartbeat transmitter means 1 carried on the breast of a person and a receiver means 2 carried on a wrist of the person." (*Säynäjäkangas*; col. 2, lines 59-61). Accordingly, Säynäjäkangas does not disclose or suggest an implantable medical device, and therefore does not disclose or suggest a wireless transceiver for providing a power supply for operation of an implantable medical device.

Moreover, Säynäjäkangas does not disclose or suggest any coil winding configured to supply electrical power to a control circuit for operation of the control circuit in response to a signal. More particularly, Säynäjäkangas fails to disclose or suggest a first coil winding configured to receive a signal from an external source, the first coil winding being wound around its coil axis in a first direction, and at least one second coil winding configured to receive the signal from the external source, the second coil winding being wound around its coil axis in a second direction non-parallel with the first direction, wherein the first and second coil windings are electrically connected to a control circuit and configured to supply electrical power to the control circuit for operation of the control circuit in response to the signal.

In the recent Office action, the examiner asserts that "Säynäjäkangas is capable of being implanted because the device is shown mounted on the chest receiving ECG signals and implantable devices that receive ECG signals are commonly used which would make Säynäjäkangas capable of being implanted inside the chest cavity." However, Applicant notes, as stated above, that Säynäjäkangas does not disclose an implantable device, but instead explicitly states that the transmitting device is *mounted on*, not implanted in, the chest.

However, even construing, *arguendo*, Säynäjäkangas' transmitting device to be an implantable medical device, it must be noted that this is a transmitting device, and the disclosed transmitting coils 17 are a transmitting antenna.

Accordingly, not only does Säynäjäkangas not disclose or suggest that the transmitting antenna can receive a signal to provide operational power to a control circuit, Säynäjäkangas does not even disclose or suggest that the transmitting coils 17 performs any receiving function.

Further, Säynäjäkangas discloses a supply voltage V+ that powers the transmitting means 1, including the transmitting coils 17. Clearly, the transmitting coils 17 do not function in any way as a power supply, or to supply electrical power to a control circuit for operation of the control circuit in response to a signal.

As discussed above, Paul also fails to disclose or suggest any coil winding configured to supply electrical power to a control circuit for operation of the control circuit in response to a signal. More particularly, Paul fails to disclose or suggest a first coil winding configured to receive a signal from an external source, the first coil winding being wound around its coil axis in a first direction, and at least one second coil winding configured to receive the signal from the external source, the second coil winding being wound around its coil axis in a second direction non-parallel with the first direction, wherein the first and second coil windings are electrically connected to a control circuit and configured to supply electrical power to the control circuit for operation of the control circuit in response to the signal.

Both Säynäjäkangas and Paul fail to disclose or suggest the claimed arrangement of coil windings electrically connected to a control circuit and configured to supply electrical power to the control circuit for operation of the control circuit in response to the signal.

Therefore, Säynäjäkangas and Paul fail to form a *prima facie* case of obviousness of claim 1 because Säynäjäkangas and Paul together fail to disclose or suggest each and every element set forth in claim 1. Accordingly, it is respectfully submitted that claim 1, along with claims 2-14 which depend from claim 1, are allowable over the cited

references. For at least these reasons, the withdrawal of the rejection is respectfully requested.

Conclusion

Every effort has been made to place the application fully in condition for allowance, and to remove all issues raised by the Examiner in the Official Action.

In view of the amendments to the claims, and in further view of the foregoing remarks, it is respectfully submitted that the application is in condition for allowance. Accordingly, it is requested that claims 1-3 and 6 be allowed and the application be passed to issue.

If any issues remain that may be resolved by a telephone or facsimile communication with the Applicant's attorney, the Examiner is invited to contact the undersigned at the numbers shown.

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Respectfully submitted,



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